

REPORT TO THE ALASKA BOARD OF FISHERIES

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

COOK INLET AREA

1993



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INTRODUCTION

The Cook Inlet Management Area, Statistical Area H, has as its eastern boundary the longitude of Cape Fairfield (148° 50' W. long.) and its southern boundary the latitude of Cape Douglas (58° 52' N. lat.). The management area is divided into six shellfish districts: Southern, Kamishak, Barren Islands, Outer, Eastern and Central (Figure 1). This report covers the Cook Inlet Tanner crab (Chionoecetes bairdi) and red king crab (Paralithodes camtschaticus) resources.

TANNER CRAB FISHERY

Introduction

Tanner crab fishing has occurred in six of the districts of the Cook Inlet Management Area (H): Southern, Kamishak, Barren Islands, Central, Outer and Eastern (Figure 1). Historical catch, since inception of the minimum legal size in 1976, has ranged from 408,000 pounds in 1992 to 5.7 million pounds in 1978-79 (Figure 2, Table 1). The number of participating vessels has ranged from 7 in 1990 to 137 in the 1988 season. The entire management area was closed for the 1989 season due to depressed stock conditions.

The Southern District is fished by both small and large vessels. The fishery occurs in the relatively protected waters of Kachemak Bay. Approximately 50 percent of the vessels do not have circulating crab tanks. The Homer and Seldovia boat harbors, home ports to most of the fleet, are no more than a three hour run from the geographic extremes of the district. Fishing depths range from 5 to 95 fathoms, but generally are between 30 and 55. Historical annual harvests have ranged from 270 thousand to 2.9 million pounds. The fishery was closed in both 1989 and 1990 due to depressed stock conditions. Recent vessel effort has been high with 127 boats fishing during the 1988 season and 110 boats in the 1992 season (Table 1).

The Kamishak Bay and Barren Islands Districts are often considered one management unit because survey, fishery and tag recovery information show that these two districts contain a single stock of Tanner crabs. The fishery in the Kamishak and Barren Islands Districts occurs in open waters subject to severe weather and icing conditions, as well as extreme tides and seasonal ice flows from upper Cook Inlet and Kamishak Bay itself. All participating vessels have circulating sea water systems. The smallest vessels are generally 50 feet in keel length. These smaller vessels are often extremely limited in fishing time due to the weather conditions. Many fishermen generally fish around the clock; the boats jog while the gear soaks. Safe anchorage from storms is

located behind Augustine Island or in Iniskin Bay. Fishing occurs in a 15 to 90 fathom depth range. Historical catch since full development of the fishery and implementation of the legal minimum size has ranged from 0.4 to 3.3 million pounds. The fishery was closed in 1989 and 1992 due to depressed stock conditions. Vessel effort has ranged from 7 to 28 boats (Table 1).

The Outer and Eastern Districts are located in the Gulf of Alaska bordering the Prince William Sound Management Area (E) on the east at Cape Fairfield. Recently this fishery has occurred in or near the mouths of the many fjord like bays along the outer coast of the Kenai Peninsula; however, the exposed open waters in the Gulf of Alaska portion of these districts once provided significant portions of the catch. The fleet in these districts is characterized by both small and large vessels, the smaller boats fish the bays and the larger vessels fish the bays and the open ocean. Poor weather conditions impact all of the boats since the smaller vessels must negotiate open ocean waters to reach gear placed in the bays both east and west of Seward, which is the delivery point for most of the crabs. Some crabs, however, are delivered to Homer resulting in an equally rough trip from the bays of the outer Kenai Peninsula to Homer.

This crab stock has suffered the same severe decline in abundance as the stocks as far east as Yakutat. Historical catch since implementation of the minimum legal size in 1976 has decreased from 800,000 to 50,000 pounds. The fishery was closed from 1989 through 1991 due to depressed stock conditions. Vessel effort has ranged from 7 to 25 boats (Table 1).

The regulatory season for the entire management area is from January 15 through March 31. The season may be terminated earlier by emergency order. The opening date of January 15 was first implemented in 1987. The season opening was November 1 from the periods 1983 to 1986 and 1972 to 1974. It was December 1 from 1974 to 1983. The opening of the Southern District fishery may be delayed if weather conditions indicate potential damage to exposed crabs.

In the Southern and Kamishak/Barren Islands Districts the emergency order is utilized to close the fishery once the guideline harvest level is achieved. The Outer and Eastern Districts close either based on decline in catch per unit of effort (CPUE) or by regulation on March 31.

The Department has been tagging Tanner crabs for the past five years in the Southern, Kamishak Bay and Barren Islands Districts. Thus far there has been no interchange of legal males between the Southern District and the Kamishak/Barren Islands; however, tag recovery has indicated the Kamishak Bay and Barren Islands Districts' Tanner crabs are one stock. Furthermore the legal males tagged in these two districts have been captured in Kodiak's North

Mainland Section, but only on a regular basis as far south as Douglas Reef, which is approximately 5 miles south of Cape Douglas (Figure 1).

Regulations distinctive to the Cook Inlet commercial Tanner crab fishery are:

- 1) Superexclusive registration.
- 2) Registration prior to the season opening.
- 3) Gear storage in the Kamishak and Southern Districts in 15 fathoms or less, except in the eastern portion of the Southern District where it is 10 fathoms or less.
- 4) A 75 pot limit in the Southern District if the guideline harvest level is greater than 800,000 pounds. A 40 pot limit if it is less.
- 5) Buoy identification tags are required in the Southern District to assist with the pot limit enforcement.
- 6) A requirement for two 4 3/4 inch escape rings on all gear.

1992 Season Summary

The Southern, Outer and Eastern Districts were opened to commercial fishing in 1992. The total catch was 407,917 pounds taken by 121 vessels. The Central, Barren Islands and Kamishak Districts remained closed due to low stock abundance.

Southern District

The 1992 season harvest for the Southern District was 354,868. The preseason quota was 350,000 pounds. The bulk of the catch came from the waters west of Homer Spit where 80 vessels harvested 316,600 pounds (89%) of Tanner crabs. The catch east of the Spit was 38,268 pounds (11%) taken by 39 boats (Table 2).

The overall Southern District crab catch was taken by 110 vessels which made 194 landings. The average size of participating vessels was 44 feet with a range of 18 to 79 feet. Fifty six vessels (51%) were tanked and 54 (49%) were dry. The fishery was executed in two separate periods totalling 18 hours: 1) January 15 from 1200 to 2200 hours (10 hours) and 2) January 19 from 0900 hours to 1700 hours (8 hours).

There were one major and three minor processors that purchased 350,224 pounds of crabs from the Southern District fishery.

Fourteen catcher/sellers sold 4,644 pounds of Tanner crabs to individual markets.

Overall catch per unit of effort (cpue) was 17.6 legal males per pot. Cpue east and west of Homer Spit was 6.9 and 21.7, respectively. Mean soak time was 4.6 hours. The average weight of the crabs was 2.57 pounds and the average width was 153 mm (6.02 in.) (Table 3). True recruits (new shells) comprised 53 percent of the catch. Thirty-three percent of all legal crabs were skipmolts (old shells) in the recruit size class. Ten percent were new shells in the postrecruit size class, and the remaining 4 percent were skipmolts in the postrecruit size class.

Similar to the 1991 season, the 1992 commercial season in the Southern District was unique from previous fisheries in three ways:

- 1) There was a 40 pot limit with an accompanying buoy tag requirement.
- 2) Ambient air temperature and wind speed were determining factors for the opening of the fishery.
- 3) The length of the season was set prior to the opening.

Although a pot limit for the Southern District has been in place since 1986, the 1992 season was only the second year that buoy tags were required. These tags aid in enforcement of the pot limit. A series of 40 tags unique to each vessel were issued at the time of registration. A fee sufficient to recover the cost of the tags was charged to each registrant. Prior to the fishery the department issued suggestions from commercial fishermen regarding application procedures for tags. There were no complaints about tags not adhering to buoys. Fish and Wildlife Protection officers, who patrolled the fishing grounds aboard the State Vessel Pandalus, felt compliance with the pot limit was excellent due primarily to the buoy tags.

Justification for opening the fishery based on air temperature was a result of research completed by National Marine Fisheries Service (NMFS) (Carls and O'Clair, 1989). This work showed that as temperature declined, damage to Tanner crabs increased. The department's management goal therefore was to harvest Tanner crabs within a temperature regime that minimizes the damage to sublegals and females that are sorted from the legal male segment of the catch. This was accomplished by extrapolating the NMFS data to fit the real weather and fishing conditions in the Southern District which resulted in a minimum of 15 degrees Fahrenheit and a 0 to 10 knot wind necessary to allow fishing.

The length of the season was set prior to the opening in order to avoid overharvest. Prior to 1991 the department had used inseason

fishery performance data, such as catch per unit of effort, to determine the closure. Due to the increase in effort and the reduction in harvestable crabs, the resource had often been overfished by the time the staff collected the cpue data and implemented the closure. With an enforceable pot limit and a registration deadline, however, effort can be anticipated and the rate of harvest estimated, therefore allowing for the determination of season length prior to the actual fishery.

Processing capacity was limited during the 1991 season. The department responded by reducing the open period to a point where the limited catch could be handled by the processors. As a result no dry boats would be turned away at the dock therefore avoiding loss of their crabs to deadloss.

In December 1991 the department contacted processors regarding their capacity for handling the 350,000 pound 1992 season quota in one period. Based on processor response the capacity was calculated to be between 225 and 250 thousand pounds. The department estimated a 10 hour fishery would be required to obtain this harvest level.

The fishery opened by regulation at 12 noon January 15 and closed via emergency order at 2200 January 15, a period of 10 hours. The January 15, 0500 temperature and wind at the Homer Harbormaster's was 37 degrees fahrenheit and 10 knots out of the east northeast. The 0400 National Weather Service forecast for Kachemak Bay was for temperature in the 30's and wind out of the east at 15 to 25 knots. These temperature and wind conditions were favorable for crab survival therefore the fishery was allowed to open by regulation at 12 noon January 15, 1992.

The catch for the January 15 fishery was approximately 210,000 pounds taken by 107 vessels. One ring netter, fishing from a pot vessel, also made a delivery. An additional 4 vessels set gear, but did not deliver any crabs due to either breakdown or lack of crabs. Catch per unit of effort averaged 18.6 legal males per pot with an mean soak time of 4.75 hours.

The second opening took place January 19 from 0900 to 1700 hours, a period of eight hours. The guideline harvest level was 135,000 to 140,000 pounds, which was the remainder of the original 350,000 pound quota. The fishery was postponed until January 19 due to both time required to process the catch from the first opening and a delay in gear/bait jar removal which was a regulatory provision necessary to guarantee a fair start for the second period.

The National Weather Service 0400 forecast for January 19 was northeast winds to 20 knots decreasing to 10 knots accompanied by temperatures to 30 degrees fahrenheit.

The catch was approximately 149,000 pounds harvested by 89 boats and one ring netter who fished from a pot vessel. Catch per unit of effort averaged 16.4 legal males per pot with a mean soak time of 4.4 hours.

Outer and Eastern Districts

The season opened in the Outer and Eastern Districts by regulation on January 15, 1992 and closed by emergency order on February 15, 1992, a period of 31 days. The total catch for both districts was 53,049 pounds taken by 16 vessels which made 35 landings. Harvests by district were 15,244 pounds for the Outer District taken by six vessels, and 37,805 pounds from the Eastern District caught by 10 vessels (Table 2). The majority of the crabs were delivered to Seward with a small percentage coming to Homer.

Overall cpue was 6.0 crabs per pot, 5.5 from the Outer District and 6.2 from the Eastern. Average width of the crabs was 145 mm (5.72 in.). Average weight was 2.16 pounds per crab (Table 3). True recruits comprised 41 percent of the catch with skipmolts in the recruit size class making up the remaining 59 percent. Less than one percent of the catch included crabs that were in the post-recruit size class (greater than 6.5 in.).

Dockside sampling data showed a significant number of the new shells (< 50%) were half full of meat indicating that these animals molted in the fall well after the normal spring molting period.

Although the geographic area covered by these two districts is large, the 16 boats involved included many fishermen with long term fishing experience in these districts. Interviews with these fishermen indicated that all of the traditional fishing areas were explored, both in the bays and the open ocean, with the same poor results. Interviews further indicated a negligible catch of any prerecruits except at the heads of some of the bays such as Day Harbor and Nuka.

1993 SEASON MANAGEMENT OUTLOOK

Southern District

The department conducted a trawl survey in July 1992 to assess the Tanner crab stock in the Southern District. Results of this survey indicated a guideline harvest level of 600,000 pounds for the 1993 Southern District fishery. The increase in the harvest level over the previous two seasons is a function of both improved survival from the 1992 fishery and significantly greater recruitment into the legal segment of the stock following the 1992 molt. Trawl survey data have identified two relatively strong year size classes

of catchable males: one recruited into the legal segment of the stock in 1992; the second will recruit in 1993 (Figure 3).

Weather conditions and processing capacity will again be significant factors in determining the exact opening date and duration of the 1993 fishery.

Kamishak and Barren Islands Districts

A trawl survey was also conducted in the Kamishak and Barren Islands Districts in 1992. The results of this survey were compared to the trawl survey conducted by the Kodiak ADF&G staff south of Cape Douglas. These two surveys allow the department to sample the entire stock. Both 1992 surveys indicated that the stock in the Kamishak/Barren Islands Districts remains in a depressed condition. The fishery will therefore not be opened. The 1992 trawl survey data indicate continued poor recruitment into the legal segment of the stock. The survey further showed a continuation of the skipmolting phenomenon in the prerecruit one size class which has always been symptomatic of the Kamishak/Barren Islands stock (Figure 4). There is very little likelihood that these skipmolts will molt again and subsequently recruit into the legal segment of the stock.

Outer, Eastern and Central Districts

The Department does not conduct stock assessment surveys in the Outer, Eastern and Central Districts. As this stock has been on a long, steady decline, there is no reason to expect a miraculous recovery. This decline was further exemplified by the 1992 fishery when a record low harvest was taken. Since commercial fishermen saw very few sublegal Tanners during the 1992 fishery, the likelihood for significant recruitment is very limited for the 1993 fishery and probably the 1994 season as well. Although survey and fishery information from adjacent areas will be reviewed prior to determining a 1993 season, there are no data available now that indicates a harvest is justified.

KING CRAB FISHERY

Introduction

There are two species of king crab found in the Cook Inlet Management Area (H), red and brown (*Lithodes aequispina*). Red is the dominant species with brown found only in a scattered distribution in the outer Gulf of Alaska. Most of the red king crab fishery has occurred either in the Southern District or the

Kamishak/Barren Islands Districts. Very little catch has come from the Outer District and none has been documented from the Eastern District (Figure 1).

Earliest recorded commercial landings of king crab occurred in 1937 when crabs were canned at a Halibut Cove packing facility. Commercial fishing for this species remained at a relatively low level through the 1940's. By the mid-1950's harvest levels rose to approximately 2 million pounds per year. During the 1960's fishing expanded to the Kamishak Bay District and boats were harvesting up to 8 million pounds per year. During 1964-65 a significant drop in catch occurred in the Kamishak District primarily due to lack of processing facilities in the Seldovia area which was a result of earthquake damage in 1964. From the late 1960's through 1976 the seasonal catches ranged from 2.5 to 4.8 million pounds. Since that time catches have generally declined (Figure 5 and Table 4). The commercial fishery has been closed due to low abundance since the 1981-82 season in the Southern District and the 1983-84 season in the Kamishak/Barren Islands Districts.

The current season opens by regulation on August 1. From 1983 to 1987 the season opening date was July 15. Prior to 1983 the season opened on August 1.

The minimum legal size for all species of king crab is seven inches in carapace width with a provision for an eight inch season. The eight inch season, which may be opened and closed by emergency order, has been in effect since 1976. It was used during the 1976-77 season in all districts and during the 1977-78 season in the Kamishak/Barren Islands Districts only. The seven inch minimum legal size has been in effect since 1963.

Cook Inlet is a superexclusive registration area for king crab. The current pot limit is 75 if the management area guideline harvest level is greater than 1.5 million pounds. If the guideline is less than 1.5 million, then the pot limit is 40. Similar to the Tanner crab fishery, there is a buoy tag requirement accompanying the pot limit.

1992 Season Summary

Southern District

No king crab harvest has been allowed in the Southern District since the 1981-82 season. Extreme low abundance as well as heavy infestation of egg predators in the female clutches necessitated maximum protection of the stock. Although the incidence of egg parasitism seems to have abated, the overall measurable abundance of king crabs remains very low.

The 1992 department trawl survey continued to identify a small group of post recruit males. These animals are a function of survival of successive weak year classes that have been subjected to little fishing mortality.

Kamishak Bay and Barren Islands Districts

The Kamishak/Barren Islands Districts were first closed to commercial fishing due to low abundance prior to the 1984-85 season. The commercial fishery has remained closed through 1992.

The 1992 trawl survey catch of king crabs indicated a depressed stock. Similar to the Southern District, the stock of king crabs in the Kamishak/Barren Islands Districts was characterized by weak recruitment and continued small increases in the post recruit segment of the stock which is a function of good survival due to no fishing mortality.

Outer and Eastern Districts

Brown king crabs have never been found in high concentrations in the Outer and Eastern Districts. Regulatory fishing for brown king crabs was authorized, via commissioner's permit, coincidental to the Tanner crab season in the Outer and Eastern Districts in 1988. No catch occurred due to lack of abundance of this species. Two vessels received brown king crab permits incidental to the 1992 commercial Tanner crab fishery in the Outer and Eastern Districts. Neither vessel delivered brown king crabs.

1993 SEASON MANAGEMENT OUTLOOK

Southern District

The department will conduct its annual Southern District king and Tanner crab trawl survey in July, 1993. It is improbable that the results from this assessment will indicate any significant increase in the legal segment of the stock, thereby justifying opening of the commercial, sport and personal use fisheries.

Kamishak Bay and Barren Islands Districts

The number of prerecruits caught in recent surveys does not indicate that recruitment will justify an opening of the commercial fishery on August 1, 1993. The Department will conduct the 1993 trawl survey in June.

There will be no further effort to justify an eight inch king crab season as provided for by regulation since research on the reproductive capabilities of male king crabs, conducted by the Institute of Marine Science in Seward, indicates that the large males are more important to the brood stock than small males. Although large skip molt males may appear to be too old to mate, the only conclusive method to determine breeding capability is examination of the gonads, which can only be achieved by killing the crab.

Outer and Eastern Districts

These districts will remain closed to the harvest of red king crabs until the overall stock in the remainder of the Cook Inlet Management Area recovers. Permits for brown king crab will be issued only if the Tanner crab season is opened.

LITERATURE CITED

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Table 1. Tanner crab catch (pounds) by season, Cook Inlet Management Area, 1968-92.

Season	Southern District	No. of Vessels	Kamishak/ Barren Is. District	No. of Vessels	Outer/ Eastern District	No. of Vessels	Central District	No. of Vessels	Total Catch	Total Vessels
1968-69	1,388,282		12,398		816				1,401,496	
1969-70	1,147,154		71,196		104,191				1,322,541	
1970-71	1,046,803		541,212		3,000				1,591,015	
1971-72	2,462,956		974,962		804,765				4,242,683	
1972-73	2,935,662		3,361,023		1,266,023				7,562,708	
1973-74	1,387,535		4,689,251		1,891,021				7,967,807	
1974-75	967,762		2,150,462		656,660				3,774,884	
1975-76	1,339,245		3,281,084	17	850,964				5,471,293	57
1976-77	2,009,633	35	1,765,926	24	824,520				4,600,079	67
1977-78	2,806,568	55	2,077,092	28	502,049				5,385,709	92
1978-79	2,323,420	75	2,713,339	27	694,728				5,731,487	77
1979-80	1,134,940	68	3,338,623	24	595,645				5,069,208	68
1980-81	1,047,630	46	1,757,331	20	463,201				3,268,162	52
1981-82	548,529	41	1,286,332	18	524,897	9			2,359,758	51
1982-83	584,908	48	1,693,794	20	682,919	20			2,961,621	65
1983-84	996,763	45	1,373,674	17	443,384	14			2,813,821	71
1984-85	1,229,298	83	1,535,547	19	259,083	7			3,023,928	86
1985-86	1,164,261	103	1,288,711	24	177,041	5			2,630,013	109
1987	1,077,379	87	1,111,339	21	251,174	13	7,771	2	2,447,663	95
1988	944,763	127	417,182	24	168,969	23	8,396	3	1,539,310	137
1989	CLOSED	--	CLOSED	--	CLOSED	--	CLOSED	--	0	--
1990	CLOSED	--	510,034	7	CLOSED	--	CLOSED	--	510,034	7
1991	271,379	68	266,106	8	CLOSED	--	CLOSED	--	537,485	71
1992	354,868	110	CLOSED	--	53,049	16	CLOSED	--	407,917	121
Average ¹	1,030,896	62	1,112,370	18	352,541	10	2,695	1	2,705,387	73

¹ Since inception of minimum legal size between the 1976-77 season.
Includes closed seasons.

Table 2. Tanner crab catch by district and statistical sub-area, Cook Inlet Management Area, 1991-92 season.

District ^a	Stat. sub-area	Date ^b	No. boats	No. crabs	No. pounds	Avg. weight	No. pot lifts	Average no. crabs per pot
Southern District Totals	241-11	1/15	37	45,723	117,624	2.57	1,536	29.8
		1/19	39	31,300	80,618	2.58	1,560	20.1
		Total	47	77,023	198,242	2.57	3,096	24.9
	241-12	1/15	30	23,560	60,201	2.56	1,186	19.9
		1/19	33	21,667	55,567	2.56	1,279	16.9
		Total	46	45,227	115,768	2.56	2,465	18.4
	241-13	1/15	7	3,046	7,787	2.56	337	9.0
		1/19	3	C O N F I D E N T I A L				
		Total	10	4,323	11,044	2.55	511	8.5
	241-14	1/15(total)	5	1,391	3,562	2.56	194	7.2
	241-15	1/15	24	5,342	13,657	2.56	940	5.7
		1/19	17	3,929	10,005	2.55	539	7.3
		Total	32	9,271	23,662	2.55	1,479	6.3
	241-16	1/15(total)	3	C O N F I D E N T I A L				
Southern District Totals		1/15	107	80,074	205,421	2.57	4,302	18.6
		1/19	89	58,173	149,447	2.57	3,552	16.4
		Total	110	138,247	354,868	2.57	7,854	17.6

Table 2. Continued

District	Stat. sub-area	Date	No. boats	No. crabs	No. pounds	Avg. weight	No. pot lifts	Average no. crabs per pot
Eastern	231-05		C O N F I D E N T I A L					
	231-10		C O N F I D E N T I A L					
	231-50		7	11,496	24,673	2.15	1,474	7.8
	231-60		7	4,324	9,516	2.20	707	6.1
	231-70		C O N F I D E N T I A L					
District Total								
Outer			10	17,467	37,805	2.16	2,800	6.2
	232-10		5	3,970	8,443	2.13	585	6.8
	232-21		C O N F I D E N T I A L					
	232-23		C O N F I D E N T I A L					
	232-30		C O N F I D E N T I A L					
District Total								
			6	7,124	15,244	2.14	1,294	5.5
Combined Districts' Total								
			16	24,591	53,049	2.16	4,094	6.0

^a Kamishak Bay, Barren Islands and Central Districts closed.

^b Southern District by day. Outer and Eastern for the entire season.

Table 3. Average weight of Tanner crabs, by district, from the commercial fishery, Cook Inlet Management Area, 1974-1992.

Season	Southern District	Kamishak/Barren Is. Districts	Outer/Eastern Districts	Central District
Prior to 1974	No data	available		
1974-75	2.85	N/A		N/A
1975-76	2.65	"		"
1976-77	2.79	"		"
1977-78	2.65	2.35		"
1978-79	2.64	2.25		"
1979-80	2.60	2.23		"
1980-81	2.75	2.20		"
1981-82	2.50	2.29		"
1982-83	2.47	2.29		"
1983-84	2.51	2.23		"
1984-85	2.49	2.29		"
1985-86	2.30	2.17		2.16
1987 ²	2.31	2.26	2.23	2.33
1988	2.46	2.29	2.17	2.14
1989	CLOSED	CLOSED	CLOSED	CLOSED
1990	CLOSED	2.13	CLOSED	CLOSED
1991	2.56	2.09	CLOSED	CLOSED
1992	2.57	CLOSED	2.16	CLOSED
Average	2.57	2.24	2.19	2.24

² Season opened by regulation 1/15/87. Prior to 1987, the season overlapped two calendar years.

Table 4. King crab catch in pounds by season, Cook Inlet Management Area, 1960-92.

Season	District			Total Catch	Number of Vessels
	Southern	Kamishak/ Barren Is.	Outer/ Eastern		
1960-61	2,699,680	986,551	118,067	3,804,298	
1961-62	1,619,642	3,642,500	368,909	5,631,051	
1962-63	2,763,343	5,509,708	343,505	8,616,556	
1963-64	1,960,426	4,915,303	59,352	6,935,081	
1964-65	1,892,479	1,850,572	963	3,744,014	
1965-66	1,948,012	1,684,346	14,491	3,646,849	
1966-67	1,347,904	1,386,008	89,510	2,823,422	
1967-68	1,117,397	1,883,605	239,518	3,240,520	
1968-69	750,906	1,711,296	87,302	2,549,504	
1969-70	1,464,721	1,688,803	73,644	3,227,168	
1970-71	1,540,018	2,115,991	9,468	3,665,477	
1971-72	1,992,224	2,868,315	12,657	4,873,197	
1972-73	1,391,024	2,756,023	1,966	4,149,013	
1973-74	1,971,841	2,236,131	5,613	4,213,585	
1974-75	1,816,512	2,965,310	2,035	4,783,857	
1975-76	1,674,872	1,832,484	45,293	3,552,649	
1976-77	1,035,316	3,103,895	16,384	4,155,595	
1977-78	584,090	1,099,279	1,350	1,684,719	74
1978-79	664,388	480,261	1,753	1,146,402	89
1979-80	853,584	489,365	4,871	1,347,820	82
1980-81	508,670	1,635,922	8,022	2,152,614	50
1981-82	183,899	1,371,821	4,143	1,559,863	53
1982-83	CLOSED	807,079	15,280	822,359	27
1983-84	CLOSED	188,027	4,504	192,531	17
1984-85	CLOSED	CLOSED	CLOSED	0	--
1985-86	CLOSED	CLOSED	CLOSED	0	--
1986-87	CLOSED	CLOSED	CLOSED	0	--
1987-88	CLOSED	CLOSED	CLOSED	0	--
1988-89	CLOSED	CLOSED	CLOSED	0	--
1989-90	CLOSED	CLOSED	CLOSED	0	--
1990-91	CLOSED	CLOSED	CLOSED	0	--
1991-92	CLOSED	CLOSED	CLOSED	0	--
1992-93	CLOSED	CLOSED	CLOSED	0	--

Note: Average pre 1984-85 closure catch = 3.44 million pounds per year.

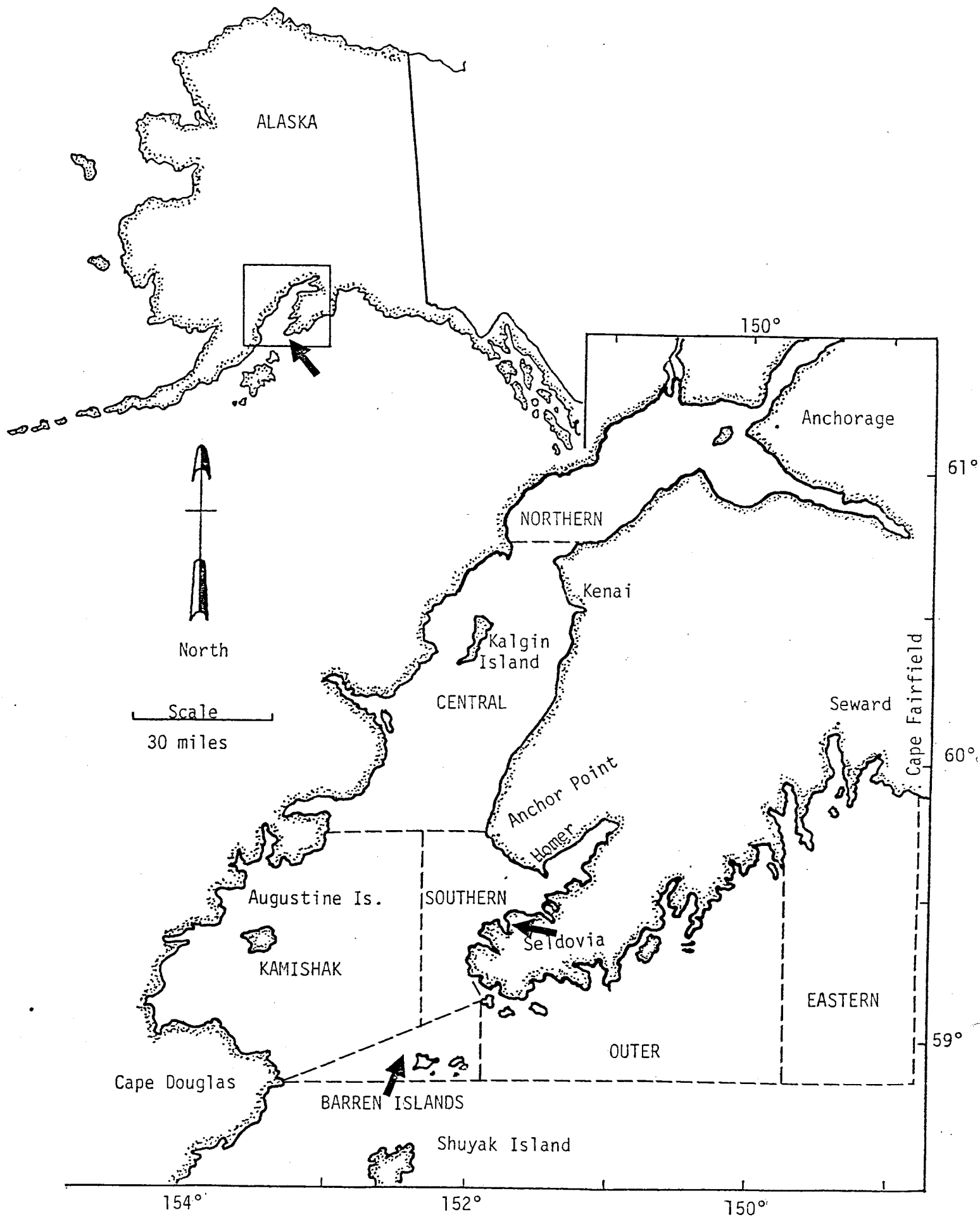


Figure 1 Cook Inlet area district location chart.

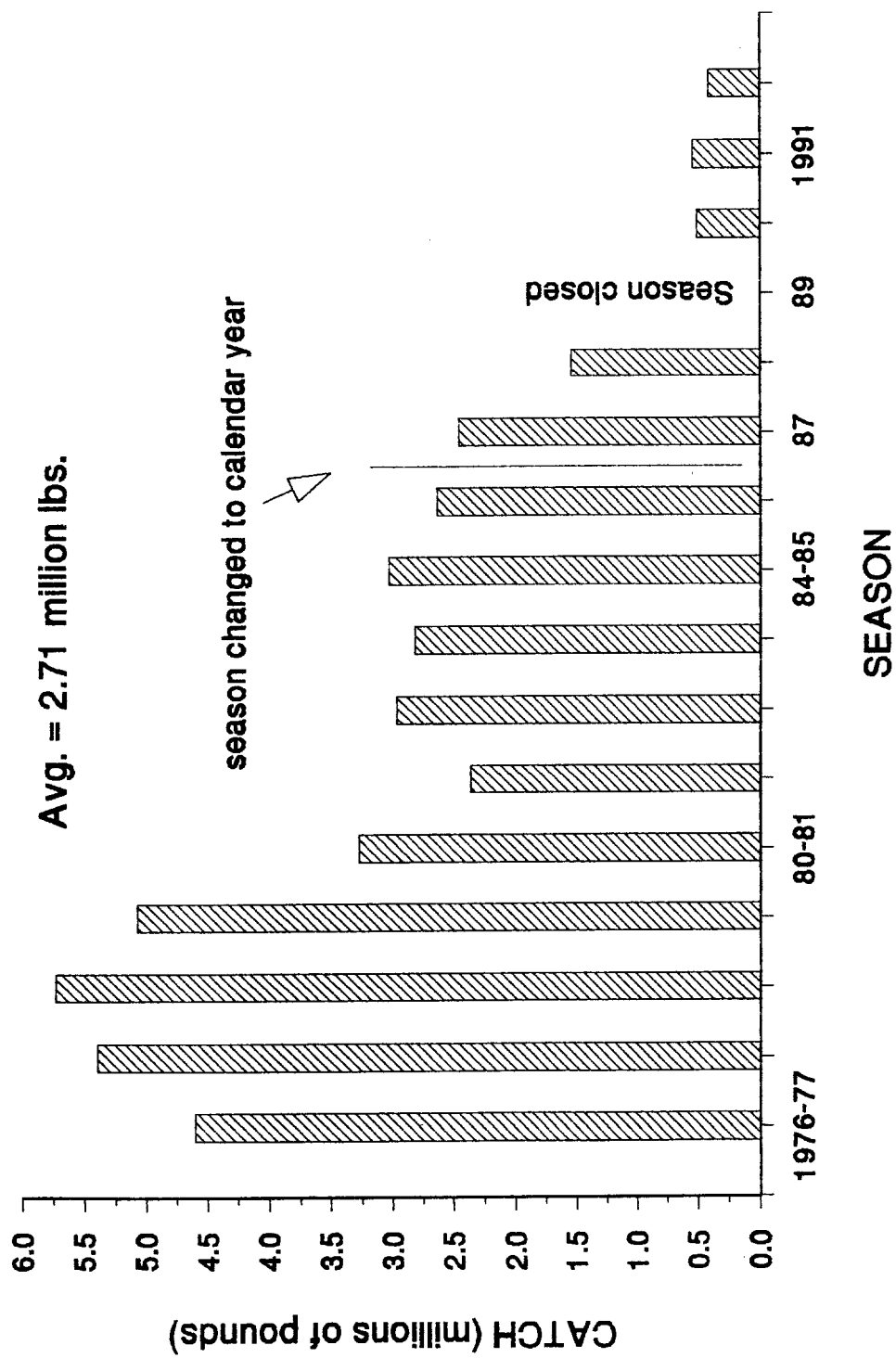


Figure 2. Tanner crab catch by season, Cook Inlet Mgt. Area, 1976 - 1992.

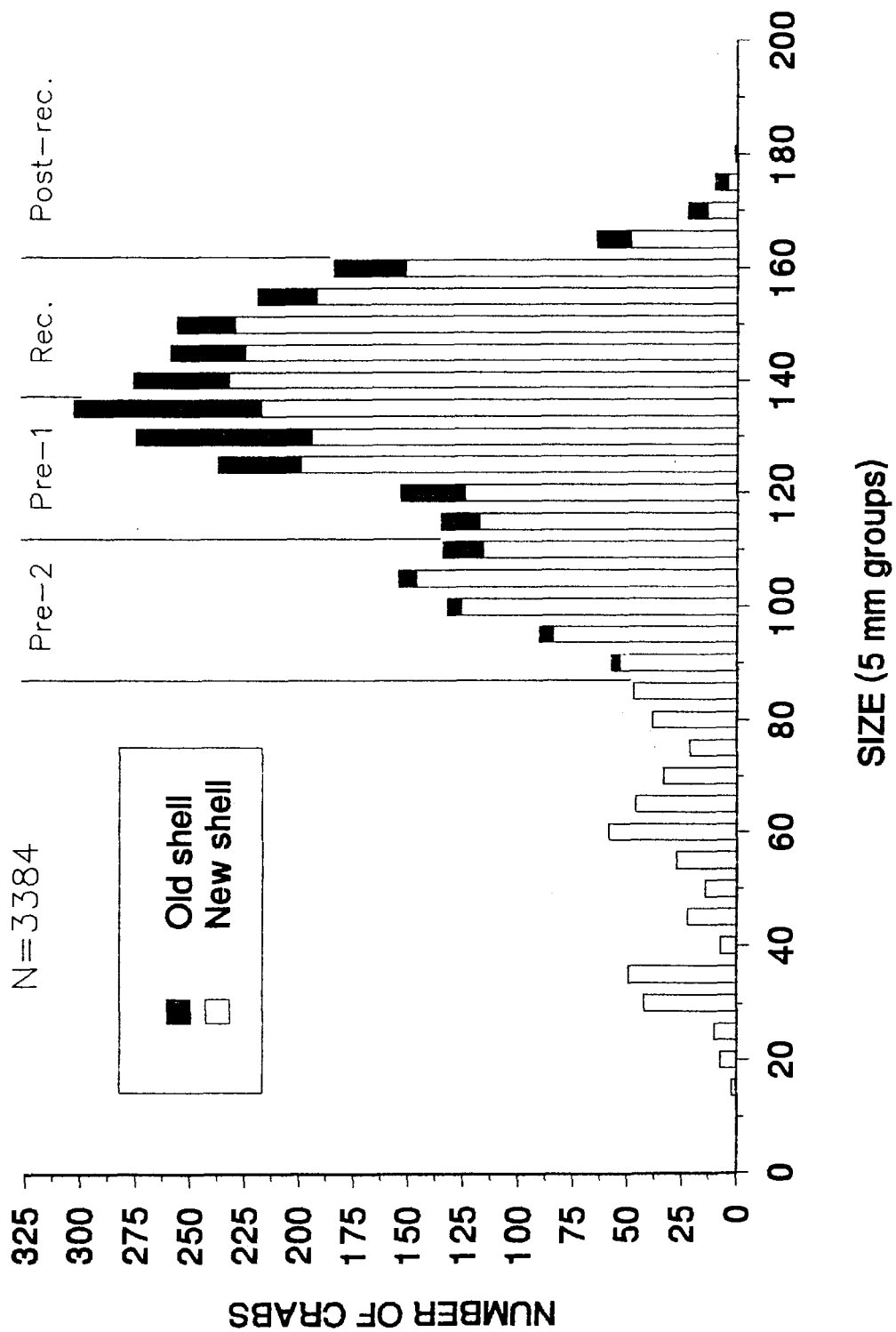


Figure 3. Male Tanner crab catch, Southern Distr., 1992 Cook Inlet trawl survey.

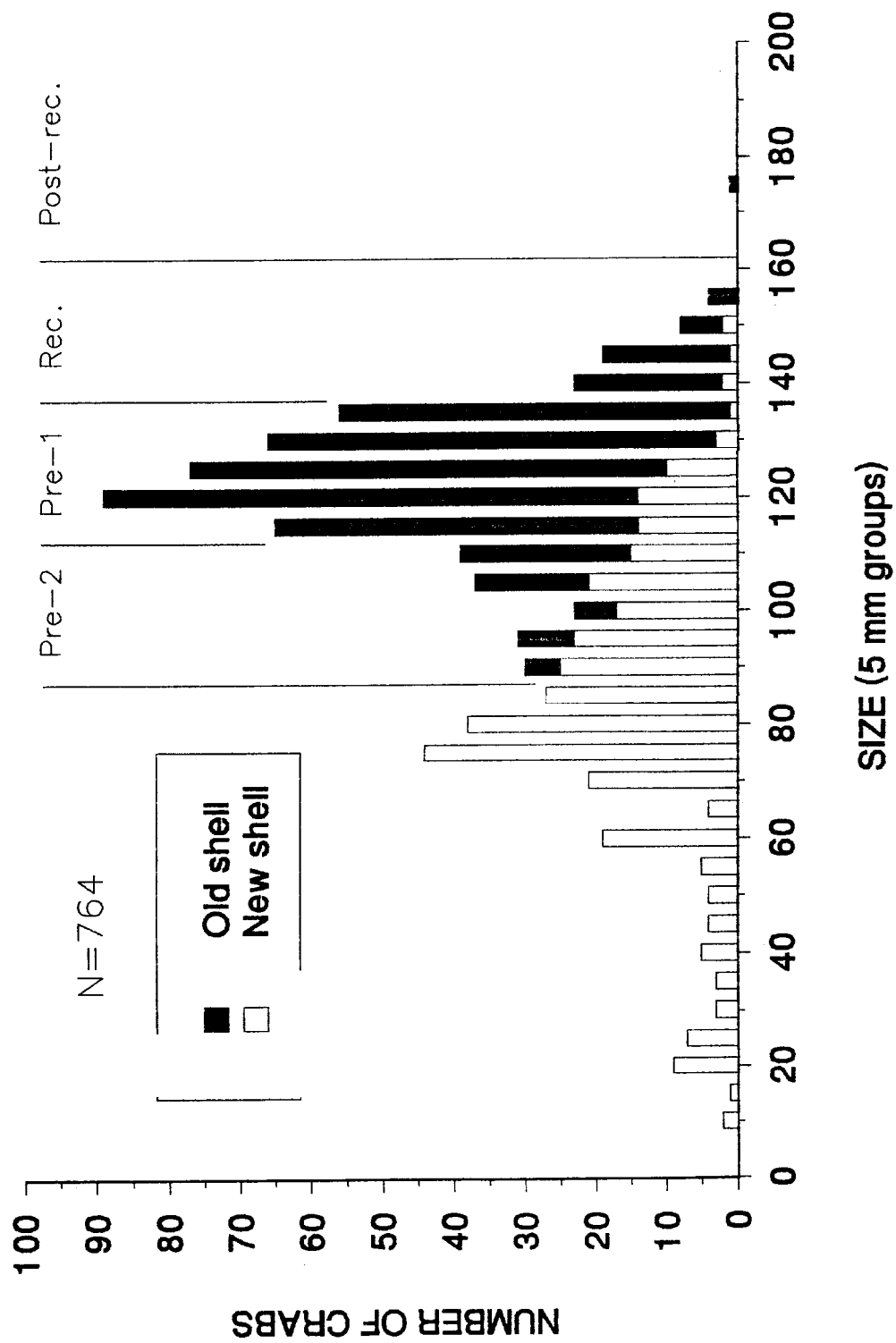


Figure 4. Male Tanner crab catch, Kamishak District, 1992 Cook Inlet trawl survey.

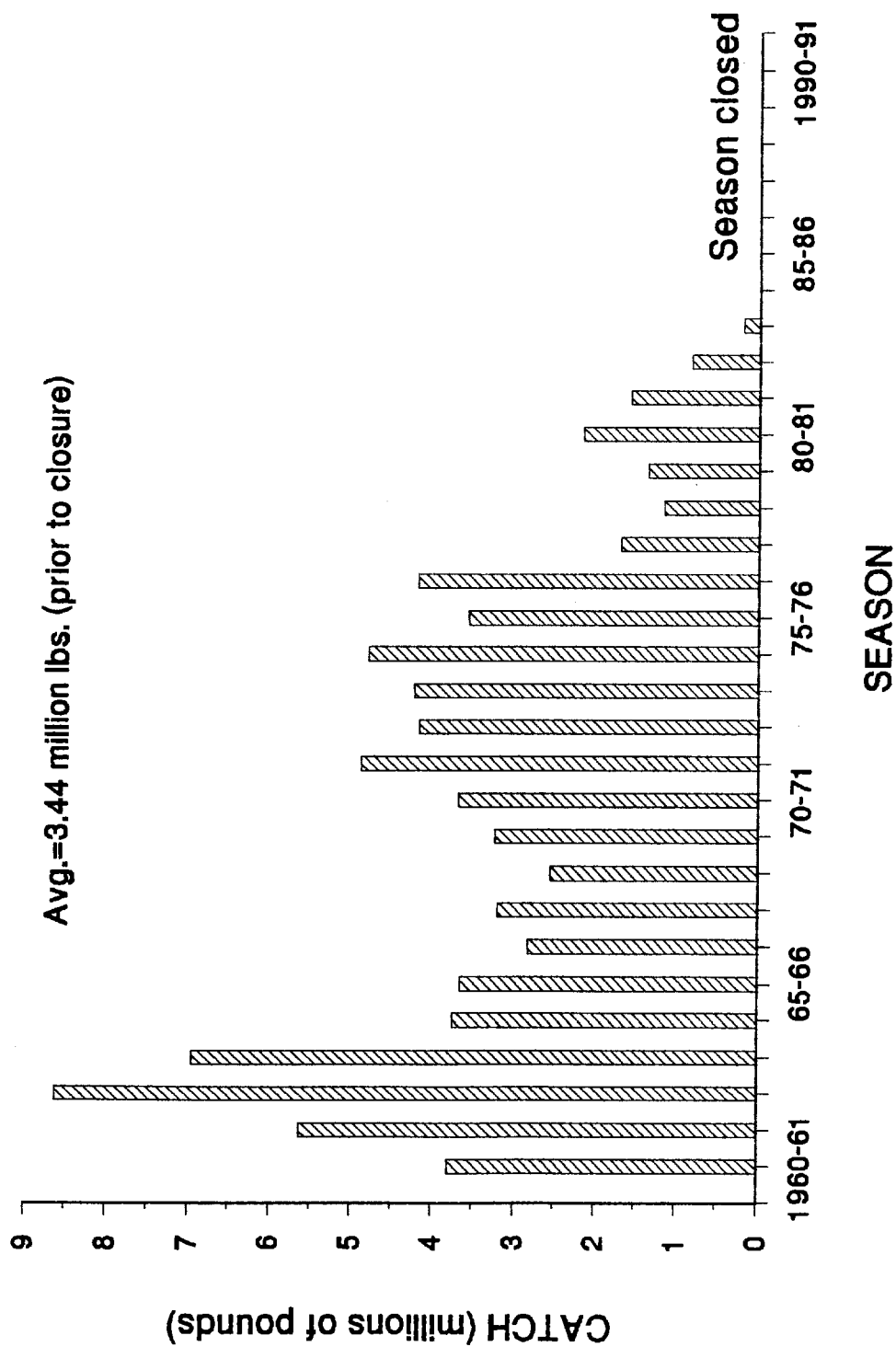


Figure 5. King crab catch by season, Cook Inlet Mgt. Area, 1960 - 1992.

